

# RUDIMENTS

OF

# MUSICAL KNOWLEDGE

BY

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## PREFACE.

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THIS little primer is intended as a text book for candidates who may be preparing for one of the various paper work examinations in rudimentary musical knowledge, or who may be desirous of being able to answer fluently the  *viva voce*  questions put by the examiners in practical subjects such as pianoforte and violin playing, singing, etc. The author has, therefore, deemed it advisable — for purposes of reference — to devote a separate chapter to the complete consideration of each special branch of information such as pitch names and places, sharps and flats, rests, time-duration scales, etc , etc , instead of grading and combining these different subjects into so many progressive lessons. In dealing with very young pupils, a skilful teacher will know quite easily how much of any particular chapter can be omitted at first, and be afterwards studied as the need for this additional knowledge makes itself felt.

# THE RUDIMENTS OF MUSICAL KNOWLEDGE.

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## CHAPTER I

### THE PITCH OF SOUNDS

#### THE STAFF, CLEFS, PITCH NAMES AND PLACES, THE REFLECTIVE SYSTEM OF LEARNING STAFF NOTATION

1 Musical Sounds differ greatly in their effect on the ear by being what is called high or low. The difference of height or depth is called *pitch*.

2 To distinguish between sounds of different pitch, the first seven letters of the alphabet, A, B, C, D, E, F, G, are used for naming them.

3 These seven letters are made sufficient, by being repeated over and over again in alphabetical order, because the eighth sound (or *octave* as it is called) if heard together with the first, blends so perfectly with it as to be recognized by the ear as the same sound differing only in pitch.

4 The varying pitch of sounds is represented to the eye by giving their alphabetical names to the lines and spaces of the *Great Staff*

5 The *Great Staff* is a series of eleven lines drawn across a page of the music book, from left to right, like the steps of a ladder (see Fig 1) The lowest, or first step, represents the sound lowest in pitch, and the higher the steps go the higher will be the pitch Here is a picture of the Great Staff showing the alphabetical names of all its lines and spaces —

Fig 1

## THE "GREAT STAFF"

Notice the thick "Middle C" line which corresponds with the C in the middle of the Keyboard

11th line,	F	_____	E	10th space
10th line	D	_____	C	9th space
9th line,	B	_____	A	8th space.
8th line	G	_____	F	7th space
7th line	E	_____	D	6th space
6th line	C	_____	B	5th space
5th line	A	_____	G	4th space
4th line,	F	_____	E	3rd space
3rd line	D	_____	C	2nd space
2nd line	B	_____	A	1st space
1st line,	G	_____		

Notice also, that unless otherwise specified, staff lines and staff spaces are always counted from the bottom, *upwards*

6 In writing music, the Great Staff is not used in its complete form as in Fig 1, because, 1st, such a large number of lines would make the music confusing to the eye, and 2nd, because five lines and four spaces (with occasional leger lines) are suffi-

cent to represent all the sounds lying within the range of a single voice or which can be conveniently played upon the pianoforte with one hand

7 In Pianoforte Music the Great Staff is *divided* in the following manner — the *five upper* lines form a separate staff for the right hand or treble part the *middle line C is omitted* (a short or leger line being provided for the writing of this sound) and the *five lower* lines form a separate staff for the left hand or bass part The two staves are connected by a brace or bracket at the left hand side but the space between the A and E lines where the middle C line has been omitted is increased, in order to still further assist the eye See Fig 2 —

Fig 2

TREBLE STAFF  
(Right hand)

BASS STAFF  
(Left hand)



8 When any portion of the Great Staff is selected or separated from the rest as in Fig 2 it becomes necessary to show by some sign which particular set of five lines is being used by the writer of the music

9 In order to distinguish between the two five lined staves of Fig 2 or any other selection of five lines taken in numerical order from the Great Staff

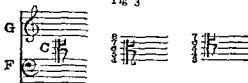
a line-name or *clef* is written on each staff so selected. There are three clefs in use and these signs are corruptions or modifications of the letters F, G, and C.

10 The line-name F is placed upon the fourth line of the *Bass Staff* (so called because it contains the lower sounds, those at the base of the ladder), this is also the 4th line of the Great Staff shown in Fig 1.

11 The line-name G is placed upon the second line of the *Treble Staff*, which is the 8th line of the Great Staff shown in Fig 1.

12 The line-name C is placed on the middle or 6th line of the Great Staff, whenever that line happens to be one of five selected from the middle of the Great Staff. See Fig 3 —

Fig 3

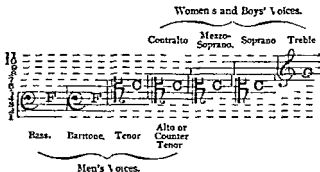


The figures at the left of the two C clefs show the numbers of the lines selected from the Great Staff—Fig 1.

13 Fig 4 shows all the possible five-lined staves which can be selected or separated from the Great Staff of eleven lines. The most important (because most commonly used) of these five-lined staves are the *Treble*, *Alto*, *Tenor*, and *Bass* —

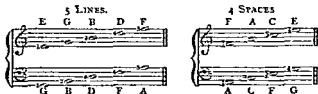


Fig 4



14 We shall see later that *notes* are differently shaped characters used to represent the *length or duration of sound*. Any notes written on the lines and spaces of the great Pianoforte Staff of ten lines (see Fig 2) receive the following pitch names. Compare Fig 5 with Fig 1:—

Fig 5



15. Only eleven notes of different pitch can be written on or about a five lined staff: five on the lines, four in the spaces (see Fig 5), one below the first line, and one above the fifth line (see Fig 6).

Fig. 6



The note written on the ledger line between the Treble and Bass staves is always called from its position "Middle C."

The note written in the second space of the Bass staff—counting *upwards*—is called "Tenor C," because it is the lowest sound producible on Tenor Violin or Viola.

The note written in the second space of the Treble staff—counting *downwards*—is called "Treble C."

16 When a sound is too high, or too low to be written on the staff, short additional lines are used above and below the staff called *Leger* or *Leger lines* (Leger, light). Notes may be written on these leger lines, or in the spaces between them, as in Fig. 7

Fig. 7



These leger lines are merely lines cut short and led outside the staff. When many leger lines are used above the Treble staff, if the first two be disregarded or deducted from the rest, those above will read exactly as the Treble staff itself two octaves higher in pitch.

Similarly if the first two below the Bass staff be deducted, those below will read as the Bass staff itself two octaves lower.

Sometimes in order to avoid the use of many ledger lines, the sign *Sol.* is written over a passage of notes, to show that they must be read, sung, or played, as if they had been written an octave above. The word *loco* used after *Sol.* signifies that the notes are to be read, etc., in their original pitch as written. *Sol.* placed below a passage, signifies that it is to be played an octave lower than written. The figure 8 placed under notes, indicates that the octaves below are to be played with them.

17. By the help of what is called the *Reflective System*, the names of all the lines and spaces in the two staves used for Pianoforte Music, can be committed to memory by studying the notation of the Scale of C as played on the piano by the two hands in "contrary motion":

Fig. 8.

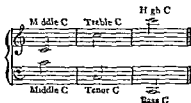


If a mirror could be placed between the two staves of Fig. 8, the notes on the Treble Staff would be reflected on its surface — so as to present the exact appearance of those printed on the Bass Staff. This reflected aspect of Fig. 8 may be compared with the familiar upside-down reflection on the surface of

the water of trees growing on the bank of a river or lake

18 The first thing to observe in this reflection is the interesting fact that C on the upper staff is reflected in exact upside position on the lower staff, so —

Fig 9



Thus on the upper staff Middle C is on the *leger line below*, on the lower staff it is reflected on the *leger line above*

Treble C is in the second space of the upper staff counting *downwards*, it is reflected by Tenor C in the second space of the lower staff, counting *upwards*

High C on the second *leger line above* the upper staff is reflected by Bass C on the second *leger line below* the lower staff. Bass C is so called because it is the lowest sound producible on the Violoncello or 'Bass viol.

19 A further examination of Fig 8 will show that in contrary motion up or down, B placed on one staff, will reflect D on the other staff. Similarly A will reflect E, and G will reflect F. As soon as these simple facts are grasped, nothing further has to be learned concerning the name of any note written on the two staves used for Pianoforte Music

Fig 10



so It can be remembered also quite easily that during the contrary motion of the scales, whilst the left hand plays descending notes which spell the word BAG, the *right* hand plays ascending notes which spell the word FID, *backward*. Similarly, whilst the *left* hand plays FID going *down*, the right hand plays BAG *backward* going *up*.

## CHAPTER II

HOW TO RAISE AND LOWER THE PITCH  
OF SOUNDSSIGNS OF INFLECTION — SHARP, FLAT, NATURAL,  
SEMITONES, ACCIDENTALS

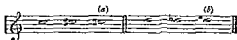
21 A *sharp* ( $\sharp$ ) written before a note *raises* its pitch by a semitone

A semitone is the smallest interval or difference in pitch between two musical sounds. It lies between any two adjacent keys of the pianoforte keyboard.

22 A *flat* ( $b$ ) written before a note *lowers* its pitch by 1 semitone

23 A *natural* ( $\natural$ ) *restores* a previously sharpened or flattened note to its original or normal pitch —

Fig. 11



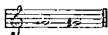
Thus in Fig. 11 (a) the note  $C^\sharp$  is lowered a semitone to its former pitch by the use of the natural ( $\natural$ ). At (b) the opposite process is seen for the note  $D^b$  is raised a semitone to its former pitch by the use of the same sign ( $\sharp$ ). Thus, the sign ( $\sharp$ ) sharpens a previously flattened note just as it flattens a previously sharpened note.

24 A *double sharp* ( $\times$ ) written before a note raises its pitch by a whole tone (= two semitones).

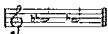
A whole tone lies between any two alternate keys of the pianoforte keyboard

25 A *double flat* ( $\flat\flat$ ) written before a note lowers its pitch by a whole tone

26 To lower a double sharp a semitone, write a single  $\sharp$ , thus —



27 To raise a double flat a semitone, write a single  $\flat$ , thus —



28 Eleven of the twelve pianoforte keys in every octave are capable of bearing three different letter names. The remaining one (the middle key in every group of three black ones) can be called by only two names ( $G\sharp$  and  $A\flat$ )

Fig 12

$C\sharp$	$D\sharp$	$F\sharp$	$G\sharp$	$A\sharp$
$D\flat$	$E\flat$	$G\flat$	$A\flat$	$B\flat$
$B\flat$	$F\flat\flat$	$E\flat$		$C\flat$

C	D	E	F $\sharp$	G	A	B
$D\flat$	$C\flat$	$D\flat$	$E\flat$	$F\flat$	$G\flat$	$A\flat$
$D\flat$	$E\flat\flat$	$F\flat$	$C\flat\flat$	$B\flat\flat$	$E\flat\flat$	$C\flat$

29 Sometimes the name of the same pianoforte key is changed upon paper, whilst the pitch of the note remains exactly the same. This is called an enharmonic change.

Equal Temperament is the name given to that system of *tuning* which provides only *one* sound for each piano-key to do duty for the various alphabetical names assigned to it in Fig. 12, but which—judged by *true intonation*—is slightly different in pitch from any one of the group of sounds there named.

30 A  $\sharp$ ,  $\flat$ ,  $\times$ ,  $\flat\flat$ , or  $\sharp\sharp$ , which does not belong to the scale or key indicated by the key signature (see

Fig. 13

ENGLISH	ITALIAN	FRENCH	GERMAN
C	Do	Ut	C
C flat	Do bemolle.	Ut bémol	Ces
C sharp	Do diessa.	Ut dièse	Cis
D	Re	Re	D
D flat.	Re bemolle	Re bémol.	Des.
D sharp	Re diessa.	Re dièse	Dus
E	Mi	Mi	E
E flat	Mi bemolle	Mi bémol	Es.
E sharp	Mi diessa.	Mi dièse	Eis.
F	Fa	Fa	F
F flat.	Fa bemolle	Fa bémol	Fes
F sharp	Fa diessa.	Fa dièse	Fis
G	Sol	Sol.	G
G flat	Sol bemolle	Sol bémol	Ges.
G sharp	Sol diessa	Sol dièse.	Gis.
A.	La.	La.	A.
A flat.	La bemolle	La bémol	Aes.
A sharp.	La diessa	La dièse	Ais.
B	Si.	Si	B
B flat	Si bemolle	Si bémol	Bes.
B sharp.	Si diessa	Si dièse.	Bis.



§74 for an explanation of this term) is called an accidental. It occurs in the music accidentally as it were.

31. The *effect of an accidental continues* upon the staff throughout the bar\* or measure in which it occurs, unless it is contradicted by another accidental.

32 The names of the notes are not the same in all languages. Fig. 13 shows the names used by the English-speaking nations as well as by the Italian, French and German nations.

\*For an explanation of the term "bar" or "measure" see §141.

## CHAPTER III.








## LENGTH OR DURATION OF SOUND.



SHAPES OF NOTES, DOTS, TIE OR BIND, SLUR, PAUSE OR HOLD, STACCATO, IRREGULAR NOTE GROUPS.

33. The time, duration or length of a musical sound is indicated by the *shape of the note* which represents the sound upon the staff.

34 There are seven kinds of differently shaped notes: —

Fig 14.

ENGLISH AND AMERICAN	ITALIAN	FRENCH	GERMAN
 The longest note or <i>Breve</i>	<i>Breve</i>	<i>Carre</i>	<i>Brevis</i>
 Whole note or <i>Semi-breve</i> (half breve)	<i>Semi-breve</i>	<i>Ronde</i>	<i>Takt note</i>
 Half note or <i>Minim</i>	<i>Bianca</i>	<i>Blanche</i>	<i>Half note</i>
 Quarter note or <i>Crotchet</i>	<i>Semi-minima</i>	<i>Noire</i>	<i>Viertel-note</i>
 Eighth note or <i>Quar</i> or	<i>Croma</i>	<i>Croche</i>	<i>Achtel note</i>
 Sixteenth note or <i>Semiquaver</i>	<i>Semicroma</i>	<i>Double-Croche</i>	<i>Sechshundertel note</i>
 Thirty-second note or <i>Demi-semiquaver</i>	<i>Semi-demi-croma</i>	<i>Triple Croche</i>	<i>Zwei und Dreissigstel L-note</i>

In some music, a very short note called a semi-demi semi-quaver is employed, it is equal in duration to half a demi-semi-quaver, and has four hooks to its stem thus— or .

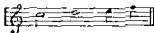
35 The *stems* of notes on, or below the middle line, are turned upwards to the right of the head, when only a succession of single notes is written on a staff —

Fig 15



and the stems of notes above the middle line are turned downwards to the left of the head —

Fig 16



It is a matter of no consequence to the actual time value whether the tails of the various notes are turned up or down

36 Quavers, semiquavers, or demisemiquavers, are often written in groups. When this is so, it is usual in the case of instrumental music to join their hooks —

Fig 17

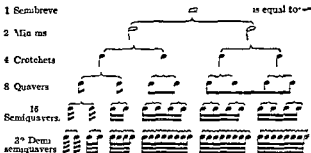


Quavers. Semiquavers Demisemiquavers.

In vocal music hooks are joined when more than one quaver etc. is sung to a single syllable

37 The relative time values of the variously shaped notes are shown in Fig 18 —

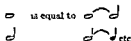
Fig 18



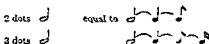
38 A note can be lengthened or continued beyond its normal and relative period of duration in two ways —

- (1) By placing a dot (or dots) after the note
- (2) By binding or tying the note to another of the same pitch


39 A *dot* placed after a note increases its length or duration one half, thus —



40 A *second dot* adds half the length of the first dot, and so on with any number of dots, thus —



It is not possible, by adding any number of successive dots to a note to double its time value

41. The curved line  shown in §§ 39 and 40 is named a *Tie* or *Bind*. It is used to connect two or more notes of the same pitch, and indicates that only the first note of those so tied or bound is to be sounded, while the others are to be held on for their respective time values.

42. There is another curved line which resembles a tie or bind in appearance, but which has a different use in music. It is called a *slur*.

43. The slur, when placed over or under several notes, signifies that they are to be played in the *legato* style, *i e.*, smoothly and connectedly: —

Fig. 19



44. When the slur is placed over or under two notes on different degrees of the scale, a stress should be placed on the first, and the second should be played lightly: —

Fig. 20.



45. The slur is used in vocal music when more than one note has to be sung to one syllable: —

\*pronounced *lay-gel-toh*.

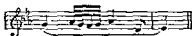
Fig. 1



In the above example, notice at (a) a simultaneous use of the tie and slur

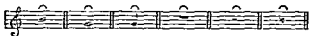
46 The slur is frequently employed to indicate how an extended melodic passage is to be phrased —

Fig. 22



47 A note or rest may be prolonged indefinitely, *i.e.*, to a period of duration entirely according to the will and taste of the performer, by means of a sign known as a *pause* or *hold*, written above or under the note or rest, as in Fig. 23 —

Fig. 23



A note or rest which is intended to be prolonged to a somewhat unusual length is marked *lunga pausa*. The letters G.P. (*Grav Pausa*) or "General Pause" are used sometimes to signify a pause or rest for *all* the performers in a chorus or orchestra

48 The shorter notes (such as the crochet, quaver, semiquaver, etc.) often have their period of sound-

duration *decreased* by means of staccato marks. A note, or passage of notes, may be indicated for three varieties of staccato performance by placing above or below the notes (a) small dots combined with slurs, (b) dots only, (c) dashes only.

Fig. 24



Fig. 24 exemplifies the three varieties of staccato phrasing: (a) *mezzo* (or slurred) *staccato* in which the sound-duration of each note is decreased by a quarter of its length by means of the dot combined with the slur.

(b) *staccato* in which the sound-duration of each note is decreased by half its length by means of the dot.

(c) *staccatissimo* in which the sound-duration of each note is decreased by three-quarters of its length by means of the dash.

But the time value taken from any note by a staccato mark must be made up by *silences* before the next note is heard.

49 In a Staccato passage of considerable length, *sempre* (always) *staccato* is written —

Fig. 25



50 Sometimes notes are irregularly grouped. Occasionally three notes of equal value are written to be performed in the time of two of the same kind, a figure 3 being placed over or under the group which

## CHAPTER IV.

## RESTS

54. A *Rest* is a character which indicates a temporary silence or cessation of sound.

55. The time or duration of a whole rest or a half rest is indicated by the *position* of the rest with respect to a line of the staff. The time-value of the quarter, eighth, sixteenth, and thirty-second rests, is determined by the *shape* of the rest. See Fig 27: —

Fig 27

$\text{  } \text{  } \text{  } \text{  } \text{  }$ or $\text{  } \text{  } \text{  }$	Longest note or <i>Drum</i>		Rest placed perpendicularly be- tween two lines of the staff
	Whole or <i>Semibreve</i>		Rest hangs from a line of the staff i.e. suspended
	Half or <i>Minim</i>		Rest supported on a line of the staff i.e. mounted
	Quarter or <i>Crotchet</i>		Head of rest turns to the right, as does the initial letter C. of the word "Crotchet"
	Eighth or <i>Quaver</i>		Head of rest turns to the left, as does the initial letter q of the word "quaver"
	Sixteenth or <i>Semiquarter</i>		Rest has a double head like the double hook of the note
	Thirty-second or <i>Drum semiquarter</i>		Rest has a triple head, like the triple hook of the note

56. A rest is definitely prolonged by writing one or more dots after it — as with notes. But it is



is called a *triplet* (Fig. 26 (a)). Sometimes two of the notes of a triplet may be sustained as one (Fig. 26 (b)).

Fig. 26.



51. A *quadruplet* is a group of 4 notes played in the time of 3 of the same kind; a *quintolet* is a group of five notes played in the time of four of the same kind. Fig. 26 (c).

52. A *sextuplet* or *sextolet* is a group of 6 notes formed either by the subdivision of a triplet or by combining two triplets into one group. Both forms are played in the time of 4 ordinary notes of the same kind as those of the example itself. Fig. 26 (d).

53. A *septolet* or *septimole* is a group of 7 notes played in the time of 6 or 8 of the same kind. Fig. 26 (e). See also Chapter IX, §§ 171, 172, 173.















## CHAPTER IV

## RESTS

54 A *Rest* is a character which indicates a temporary silence or cessation of sound

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Fig 27

	Longest note or <i>Breve</i>		Rest placed perpendicularly between two lines of the staff
	Whole or Semibreve		Rest hangs from a line of the staff i.e. <i>suspended</i>
	Half or Minim		Rest supported on a line of the staff i.e. <i>mounted</i>
	Quarter or Crotchet		Head of rest turns to the right as does the initial letter C of the word Crotchet
	Eighth or Quaver		Head of rest turns to the left as does the initial letter q of the word "quaver"
	Sixteenth or Semiquaver		Rest has a double head, like the double hook of the note
	Thirty-second or Demisemiquaver		Rest has a triple head like the triple hook of the note

56 A rest is definitely prolonged by writing one or more dots after it — as with notes But it is

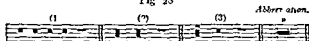
more usual to add other rests to make up the length of silence required

57 A rest as well as a note may be indefinitely prolonged by means of a pause or hold

58 A semibreve or whole rest is used to indicate silence for a whole measure in any kind of time

59 To express a rest of longer duration than one measure it was formerly the custom to employ thick lines drawn perpendicularly through the spaces between the lines of the staff. Thus a line drawn through one space implied a rest of two measures duration one drawn through two spaces meant a rest of four measures through three spaces six measures. The modern custom is to draw a thick horizontal line in the midst of the staff and to write above it the number of the measures to be counted in silence. Fig. 28 shows how to express a rest of 9 measures duration in three different ways and also the simple abbreviation of the same —

Fig. 28



60 Notes and rests are very often grouped together —

Fig. 29



## CHAPTER V

### MAJOR SCALES AND THEIR KEY SIGNATURES

61 A *Scale* (Latin, *scala*, a staircase or ladder) is a progression of sounds ascending or descending by steps or degrees in alphabetical order from any note to its octave — according to a fixed arrangement of tones and semitones

62 A *Key* is the term applied to the notes of any scale considered collectively, *i e*, arranged in any order of melody or harmony which the composer pleases

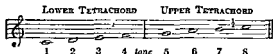
63 There are *three kinds of scales*, Major, Minor, and Chromatic. Major and Minor Scales are sometimes called Diatonic, because they both proceed by tones and semitones. The Chromatic scale proceeds by semitones only.

64 In a Diatonic Scale there are eight degrees, including the 8ve of the first note, and no other two degrees have the same letter name. In a Chromatic Scale there are twelve degrees, but the same letter name (altered by a  $\sharp$ ,  $\flat$  or  $\natural$ ), is frequently given to two successive degrees.

65 The following technical names are given to the degrees of all Diatonic Scales — The 1st, *Key-note* or *Tonic*; the 2nd is called the *Super tonic*, the 3rd the *Mediant*, the 4th the *Sub-dominant*, the 5th the

Fig 30.

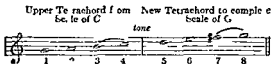
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69 On examining this scale it will be found to consist of two parts (or halves) divided by a whole tone between the 4th and 5th degrees. The arrangement of tones and semitones of the first half is copied exactly in the second half. Each of these halves is called a *Tetrachord* (lit. four notes).

70 If the upper tetrachord in the natural scale of C (see Fig 30) be taken to form the lower tetrachord of a new scale we have only to add at its upper end — at the distance of a tone — another tetrachord (two tones and a semitone) and the new scale is complete —

Fig 31



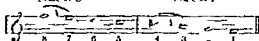
The sharp before the F (7th degree) is necessary in order to make the semitone come between the 7th and 8th degrees of the new scale.

71 We have only to continue the process of taking the upper tetrachord of one scale to form the lower tetrachord of the next until we reach at length the scale of C $\sharp$  in which every note has a sharp written before it

72 By reversing the process i.e. taking the lower tetrachord of the natural scale of C to form the higher tetrachord of a new scale, we obtain the following result —

FIG. 32

Lower Tetrachord from Scale of C      New Tetrachord made from Scale of F



The flat before the B is necessary to lower that degree half a tone so that the tetrachords should be divided by a tone and to make the semitone come between the 3rd and 4th degrees of the new scale of F.

Fig 33 shows the whole of the Major scales with sharps, beginning with the natural scale of C —

Fig 33

Signature and  
Upper key note

C Natural Key

G One Sharp

D Two Sharps

A Three Sharps

F Four Sharps

B Five Sharps

E Six Sharps

C# Seven Sharps

The figure displays eight musical staves, each representing a major scale with a specific key signature. Each staff begins with a treble clef and a key signature consisting of one or more sharps. The scales are written in a single octave, starting from the middle C (C4) and ascending to the next C. The scales are: C major (no sharps or flats), G major (one sharp: F#), D major (two sharps: F#, C#), A major (three sharps: F#, C#, G#), E major (four sharps: F#, C#, G#, D#), B major (five sharps: F#, C#, G#, D#, A#), F# major (six sharps: F#, C#, G#, D#, A#, E#), and C# major (seven sharps: F#, C#, G#, D#, A#, E#, B#). Each staff ends with a double bar line and a repeat sign.

76 On looking at the signatures of major keys with sharps, it will be noticed that the key note is always one semitone above the last added sharp which is the leading note of the scale.

77 When writing sharp signatures with the Tenor Clef, put the 1st and 3rd sharps two octaves lower.

than the places they occupy when used with the Treble Clef, so —



75 Fig. 34 shows the whole of the Major scales with flats, beginning with the natural Scale of C —

Fig. 34

C Natural Key

F One Flat

B $\flat$  Two Flats

E $\flat$  Three Flats

A $\flat$  Four Flats

D $\flat$  Five Flats

G $\flat$  Six Flats

C $\flat$  Seven Flats

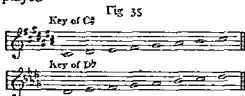
When one adds a Lower Key to the

79 On looking at the signatures of major keys with flats it will be noticed that the key note is



always the fourth note below the last added flat, which is the subdominant of the scale

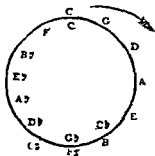
So On the pianoforte  $C\sharp$  and  $D\flat$  have the same pitch, therefore the scales having these notes for their tonic or key note will sound exactly the same when played —



The key of  $D\flat$  which has fewer flats in its signature than  $C\sharp$  has sharps is frequently used in the place of  $C\sharp$ .  $B$  (5 sharps) is also frequently used instead of  $C\flat$  (7 flats) and sometimes it is more convenient to use  $F\sharp$  for  $G\flat$  or  $G\flat$  for  $F\sharp$ . Such changes are called Enharmonic

81 The complete cycle of scales will be twelve, whether we take six sharp keys, one natural key and five flat keys, or five sharp keys, one natural key and six flat keys —

Fig. 36  
CYCLE OF SCALES.



The construction of Key Signatures can be remembered very easily by means of the *reflective system* explained later on in Chapter VII

## CHAPTER VI

## MINOR SCALES AND THEIR KEY SIGNATURES

82 The *Minor Scale* is used in *two forms*, the Harmonic, and the Melodic (or Arbitrary)

83 In the *Harmonic* form, the semitones occur between the 2nd and 3rd, the 5th and 6th and the 7th and 8th degrees, both ascending and descending. An augmented 2nd occurs between the 6th and 7th degrees, this is an interval or distance of three semitones, and is accordingly one semitone wider than a whole tone —

Fig. 37



In writing the Harmonic form of any minor scale, take care that the 7th degree (or leading note) is always indicated by an accidental. Although itself a chromatic note, because it is not included in the minor key signature the accidentally raised leading note does not make the scale chromatic because no two scale-degrees bear the same letter name. The 3rd and 6th degrees of the Harmonic Minor Scale are both a semitone lower than the 3rd and 6th degrees of the major scale which begins on the same tonic.

84 To avoid the augmented interval between the 6th and 7th degrees of the Harmonic Minor Scale

the *Melodic* or "arbitrary" minor scale has the 6th degree raised in ascending, and the 7th and 6th both lowered in descending

Fig 38  
Upper tetrachord  
of A major



85 In the *Melodic* form the semitones occur between the 2nd and 3rd, and the 7th and 8th *ascending* and between the 6th and 5th, and the 3rd and 2nd *descending*

In writing the *Melodic* form of any minor scale take care that the 6th and 7th degrees ascending are always indicated by accidentals. Accidentals are not required for the descending form unless to contradict the previous sharpening of these degrees in the ascending form. Notice that the upper tetrachord of the *melodic* form of a minor scale is exactly the same as the upper tetrachord of the major scale which begins on the same tonic. The 3rd degree of a minor scale (the *mediant*) is always one semitone lower than the *mediant* of the major scale beginning on the same tonic.

86 A minor scale which begins on the same key note as any given major scale, is called the *tonic minor* of the latter








The signature of the *tonic minor* has always three sharps less or three flats more than the signature of its *tonic major* scale

87 A minor scale which has the same signature as the major scale which begins on its 3rd degree or *mediant*, is called the *relative minor* of the latter

A *relative minor* scale begins on the 3rd note of the descending form of its *relative major* scale, i. e., upon the 6th degree, or *submediant* of the latter

Fig 39



## MINOR SCALES WITH SHARPS






				Signatures and Key-notes
A minor is relative minor to C major,				
E minor	'	"	G major	
B minor	"	"	D major	
F# minor	"	"	A major	
C# minor	"	"	E major	
G# minor	"	"	B major,	
D# minor	"	"	F# major	

88 On looking at the signatures of minor keys with sharps, it will be noticed that the key note is always a whole tone below the last sharp (which is the super tonic of the scale)

Fig 40

## MINOR SCALES WITH FLATS.

				Signatures and Key-notes.
D minor is relative minor to F major,				
G minor			Bb major,	

C minor is relative minor to E $\flat$ major	
F minor            "            "    A $\flat$ major	
B $\flat$ minor            "            "    D $\flat$ major	
E $\flat$ minor            "            "    G $\flat$ major	
A $\flat$ minor            "            "    C $\flat$ major	

89 On looking at the signatures of minor keys with flats, it will be noticed that the key note is always the third note above the last flat (which is the sub mediant of the scale)

90 Hints for finding the key signature of a given melody —

(i) Ascertain by the kind of accidentals used, whether the melody belongs to a scale with sharps or flats

(ii) See how many times the same note or notes on the staff is, or are, affected by the same kind of accidental, and by this means separate the sharps or flats belonging to the signature, from merely chromatic accidentals

(iii) Try and discover the key note from the general mental effect produced by the melody, and, in doing this, determine whether the key be major or minor

31 Hints for finding whether a piece is written in a minor key —

(i) The leading note of every minor scale being always indicated by an accidental we know that a piece cannot be in a major key if its 5th degree is constantly being raised (ii) Such a note cannot be the dominant of any key (iii) It can only be the leading note and the key note is therefore one semi tone above this accidentally raised note

## CHAPTER VII

### THE NOTATION OF THE CHROMATIC SCALE

92 The Chromatic Scale proceeds by *Semitones* only

93 There are two kinds of semitones, the *Diatonic* and the *Chromatic*

94 The two notes which form a *Diatonic semitone* have different letter names, as  $\widehat{CD}$ ,  $\widehat{F\sharp G}$ ,  $\widehat{L\Gamma}$ ,  $\widehat{BC}$ . Such a semitone can occur between two degrees of a *Diatonic* or a *Chromatic* Scale

95 The two notes which form a *Chromatic semitone* have the same letter name, but one (or both) of the notes has an accidental as  $\widehat{D\flat D\sharp}$ ,  $\widehat{\Gamma \Gamma\sharp}$ . Such a semitone can only occur in a *Chromatic* Scale

96 There are two ways of writing the *Chromatic* Scale — the *Harmonic* way, and the *Melodic* way. The difference between the two ways is merely one of notation in the ascending form. The descending form is common to both ways.

97 The *Harmonic* way of writing the *Chromatic* scale is the same in its ascending and descending forms. The *Melodic* way only differs from it in its *ascending* form.

98 In the Harmonic form of the Chromatic Scale the Tonic and Dominant of the key are the only degrees used in their diatonic state without alteration. See Fig 41, 1, 8. The other five degrees (II, III, IV, VI, VII) of the Tonic Major Scale are used in their diatonic state and with chromatic alteration as well. See Fig 41, 3, 5, 6, 10, and 12. Four of these Diatonic degrees (II, III, VI, and VII), are lowered a chromatic semitone (see Fig 41, 2, 4, 9, 11) and the remaining one (IV) is raised a chromatic semitone. See Fig 41, 7 —

Fig 41

Diatonic Degrees	1	II	III	IV	V	VI	VII	1
---------------------	---	----	-----	----	---	----	-----	---

Chromatic Degrees	1	2	3	4	5	6	7	8	9	10	11	12	1
----------------------	---	---	---	---	---	---	---	---	---	----	----	----	---

99 The *descending* form of the *Harmonic* Chromatic Scale, although the same in notation, will not require as many accidentals as in the *ascending* form —

Fig 42

Diatonic Degrees	1	VII	VI	V	IV	III	II	1
---------------------	---	-----	----	---	----	-----	----	---

Chromatic Degrees	1	12	11	10	9	8	7	6	5	4	3	2	1
----------------------	---	----	----	----	---	---	---	---	---	---	---	---	---

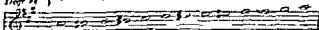
100 The *ascending* form of the *Melodic* Chromatic Scale is obtained by the insertion of only five



accidentals. The mediant and leading note (the degrees affected by the last two sharps in the signature) are unaltered. The remaining five degrees of the Diatonic Major Scale are also used, but are afterwards raised a chromatic semitone by the insertion of a  $\sharp$  or  $\times$  (or a  $\flat$  in keys with flats) —

Fig 43

Diatonic	c												
Degr	re												
	I	II	III	IV	V	VI	VII	I					

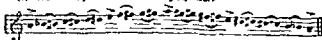


Chromatic													
Degr													
	1	2	3	4	5	6	7	8	9	10	11	12	1

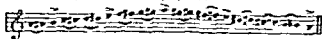
101 Examination Candidates are sometimes asked to write the Chromatic Scale in either or both of its forms, using a *minor key-signature*. Under such a condition, the order of accidentals will necessarily be different from that already shown in Figures 41, 42 and 43 —

Fig 44

(1) Harmonic form with Minor key-signature



(2) Melodic form with Minor key-signature



Unaltered scale-degrees are marked >

102 From the harmonic notation of the chromatic scale beginning on C and played in contrary motion, much may be learned and remembered con-

cerning the number of sharps and flats required for the formation of major key signatures

Fig 45



This diagram (Fig 45) may be read as follows —

The fact that C has no key-signature at all is represented by a 0

D $\flat$  — the next *upward* note in the chromatic scale — has 5 *flats* in its signature

B $\sharp$  — the next *downward* note in the chromatic scale — has 5 *sharps* in its signature

D $\sharp$  has 2 *sharps*

B $\flat$  has 2 *flats*

And so on all through the diagram, every degree of the harmonic-chromatic scale *reflects* another note which has a similar quantity of either flats or sharps in its key-signature

103 Next, it should be observed that in both the ascending and descending forms of the chromatic scale, every chromatic semitone — such as D $\flat$  D $\sharp$ , E $\flat$  E $\sharp$ , etc., — represents the key notes of two

scales one with sharps the other with flats. If the number of sharps and flats belonging respectively to these two key-signatures be added together the total will be always 7 which number is never exceeded in any single key-signature. And it should also be borne in mind that whilst  $C^{\sharp}_7$  has no key signature at all  $C^{\sharp}$  has the full number of seven sharps, and  $C^{\flat}$  the full number of seven flats.

104 The *harmonic* notation of the Chromatic Scale is reserved for chord building purposes, the *melodic* notation being chiefly confined to rapid melodic passages in which a saving of accidentals is convenient and desirable for purposes of quick and accurate sight reading.

## CHAPTER VIII

## INTERVALS



## THEIR NUMERICAL AND QUALIFYING NAMES, CONCORDS AND DISCORDS, INVERSIONS OF INTERVALS

105 The scale-distance between two musical sounds is called an *interval*

106 When the two sounds are heard in succession they form a *melodic interval*, when they are heard together, they form a *harmonic interval*

107 Intervals have numerical and qualifying names

108 Intervals are measured, and are named numerically, according to the number of diatonic degrees they cover. These degrees are counted from the lower note of the interval (which is regarded as the first degree) upwards to the higher note (which is included as the last degree)

In measuring intervals count the number of lines and spaces covered by the interval. Thus  are *seconds* because two lines and one space are taken up by the interval  are also thirds, because they use two spaces and one line.

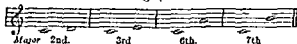
109 Accidentals do not affect the numerical name of any interval

110 The qualifying name of an interval depends upon its absolute width, which is determined by the number of semitones it contains

111 The major scale is the standard of measurement for finding the qualifying name of an interval, but the student is advised to learn by ear the effects produced by the different qualities of intervals

112 The following intervals between any key note and the 2nd, 3rd, 6th, and 7th degrees of the major scale which begins on that key note are *major* —

Fig 46



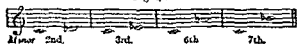
113 The following intervals between any key-note and the 4th, 5th, and 8th degrees of the major and minor scales which begin on that key note are *perfect* —

Fig 47



114 An interval is called *minor* when it is a chromatic semitone smaller than a major interval of the same numerical name. Compare Fig 48 with Fig 46 —

Fig 48



115 An interval is called *diminished* when it is a chromatic semitone smaller than a minor or perfect interval of the same numerical name —

Fig 49



116 An interval is called *augmented* when it is a chromatic semitone greater than a major or a perfect interval of the same numerical name —

Fig 50



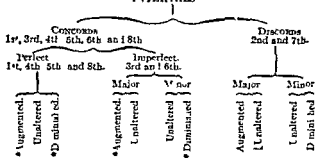
117 Though not in its perfect shape an interval, the prime or unison (a duplication of the same note) must be considered here, on account of its diminished and augmented conditions —

Fig 51



118 Figs 52 and 53 show the classification of intervals at a glance —

Fig 57  
INTERVALS



The four chromatically altered intervals marked \* are *discords* see §§115 116, 117 123

All Intervals are either *Concords* or *Discords*.

119 A Concord leaves a satisfied effect upon the ear when the two sounds are heard together, a Discord leaves an unsatisfied effect

120 There are two kinds of Concords — Perfect and Imperfect

121 The Perfect Concords are the Prime or Unison, the Octave, Fifth and Fourth (See Figs 47 and 51)

122 The Imperfect Concords are the Major and Minor 3rd, and the Major and Minor 6th (See Figs 46 and 48)

123 The Discords are the 2nd and 7th (both of which are formed by taking two notes in alphabetical order, as B C, C B, etc), and all diminished and augmented intervals

124 The following table will show what intervals are contained between the different degrees of the Diatonic Scales (Major and Minor) —

Fig 53

Quality of Interval	Name of Interval	No of Sem tones contained	Character of Interval	Int. between these degrees of the Major Scale	Int. between these degrees of the Harmonic Minor Scale
Minor	2nd	1	Discord.	$\widehat{34}$ $\widehat{78}$ .	$\widehat{23}$ $\widehat{56}$ $\widehat{78}$
Major	2nd	2	Discord.	all but $\widehat{34}$ $\widehat{78}$ .	$\widehat{12}$ $\widehat{34}$ $\widehat{45}$
Augmented	2nd	3	Discord.		$\widehat{67}$
Minor	3rd	3	Concord	$\widehat{45}$ $\widehat{68}$ $\widehat{7}$ .	$\widehat{13}$ $\widehat{24}$ $\widehat{46}$ $\widehat{72}$ .
Major	3rd	4	Concord	$\widehat{13}$ $\widehat{46}$ $\widehat{57}$	$\widehat{35}$ $\widehat{57}$ $\widehat{68}$ .
Diminished	4th	4	Discord.		$\widehat{2}$
Perfect.	4th	5	Concord.	all but $\widehat{47}$	$\widehat{14}$ $\widehat{25}$ $\widehat{36}$ $\widehat{58}$ .
Augmented	4th	6	Discord.	$\widehat{27}$	$\widehat{27}$ $\widehat{52}$
Diminished	5th	6	Discord.	$\widehat{74}$	$\widehat{56}$ $\widehat{74}$
Perfect.	5th	7	Concord	all but $\widehat{4}$	$\widehat{15}$ $\widehat{48}$ $\widehat{5}$ $\widehat{63}$
Augmented	5th	8	Discord.		$\widehat{37}$
Minor	6th	8	Concord	$\widehat{36}$ $\widehat{64}$ $\widehat{75}$	$\widehat{16}$ $\widehat{53}$ $\widehat{78}$ .
Major	6th	9	Concord.	$\widehat{16}$ $\widehat{27}$ $\widehat{42}$ $\widehat{53}$	$\widehat{27}$ $\widehat{38}$ $\widehat{42}$ $\widehat{64}$ .
Diminished	7th	9	Discord.		$\widehat{76}$
Minor	7th	10	Discord.	all but $\widehat{17}$ $\widehat{43}$	$\widehat{28}$ $\widehat{43}$ $\widehat{54}$
Major	7th	11	Discord	$\widehat{17}$ $\widehat{42}$ .	$\widehat{17}$ $\widehat{52}$ $\widehat{65}$ .
Perfect.	8th	12	Concord	all and 8ve above	all and 8ve above.

125 The only intervals not found in a Diatonic Scale are the Diminished 2nd, 3rd and 6th, and the



Augmented 3rd, 6th and 7th Of these, only the augmented 6th and the diminished 3rd are in general use, and are peculiar to the Chromatic Scale.


126 All intervals may be *inverted* by placing the lower note an octave higher, or the upper one an octave lower —





127 It will thus be seen that by inversion, a different interval is produced by notes of the same names — a fifth becomes a fourth, an octave becomes a unison etc


128 *How to find the inversion of an interval* By adding together the interval and its inversion the number 9 will always be the total therefore the inversion of an interval can readily be found by subtracting the interval from 9 The remainder shows the inversion — thus to find the inversion of a 3rd, subtract 3 from 9 and the remainder, 6 will show that the inversion of a 3rd is a 6th

129 The quality of an interval is changed by inversion, with the exception of perfect intervals which remain perfect After inversion major intervals become minor and minor become major, augmented become diminished and diminished augmented —

Thus a minor 3rd will become a major 6th, 

" major 2nd " " minor 7th, 

" perfect 5th " " perfect 4th, 

" an augmented 4th " diminished 5th 

130 By the same law of inversion, the intervals between the upper tonic and the notes of the descending major scale are either minor or perfect. In the ascending major scales these intervals were either major or perfect. See Figs 46 and 47, which compare with Fig 54 —


Fig 54



Unison	Major 2nd	Minor 3rd	Perfect 4th	Perfect 5th	Minor 6th	Minor 7th	Perfect Octave
--------	-----------	-----------	-------------	-------------	-----------	-----------	----------------

131 *How to find the numerical and qualifying names of a given interval* First count the number of lines and spaces covered by the interval set, taking no account of any accidental which may be prefixed to either or both of the given notes. Ascertain the qualifying name of the plain interval (without accidentals) by regarding the upper note as one of the degrees of the diatonic major scale of the lower note. Then ascertain how many chromatic semitones have

to be added or subtracted from this result by the nature of the accidentals in the interval set

For example, suppose  is the given interval.

Without accidentals this would be a major 7th since  $G\sharp$  is the seventh degree of the major scale of  $F\sharp$ . The  $\flat$  to the  $F$  and the  $\sharp$  to the  $G$  reduce the interval by two chromatic semitones. By § 115 any interval which is two chromatic semitones less than major is *diminished*. Consequently the given interval is a diminished 7th.

### 132 *How to find any interval above a given note*

First write the given note without an accidental. Then write above it, in the correct line or space, the bare note which gives the numerical name of the interval required. Prefix the accidental to the lower note (if there is one given in the question) and then raise or lower the upper note to obtain the quality of the interval asked for.

For example, suppose you are asked to write the augmented 4th above  $A$ . Write  $A\sharp$  on the staff and above it the fourth note  $D\sharp$ . This will be a perfect 4th, the 2nd dominant of  $A$  major. Prefix the  $\sharp$  to the given  $A$ . The lowering of this note by a chromatic semitone alters the perfect 4th into an augmented 4th which is the interval required.

### 133 *How to write any interval below a given note*

First write the given note without an accidental. Then below it, in the correct line or space, write the bare note which gives the numerical name of the interval required. Prefix the accidental to the upper note (if there is one given in the question) and then raise or lower the lower note to obtain the quality of the interval asked for.

For example, suppose you are asked to write the diminished 7th below D $\sharp$ . Write D $\flat$  on the staff, and below it the seventh note, E $\flat$ . This will be a *minor* 7th, since D $\sharp$  is the leading note (i.e., major 7th) of E. Prefix the given sharp to D. This makes the interval a major 7th. A diminished 7th being two chromatic semitones less than a major 7th, the lower note L will require a double sharp to be prefixed in order to make the interval below the given note D $\sharp$  a diminished 7th.

134. A *simple* interval is one which does not exceed the compass of an 8ve.

135. A *compound* interval is one which has a wider compass than an 8ve.

136. A 9th is always regarded in harmony as a compound interval.

137. With the exception of the 9th, compound intervals are frequently considered as simple, though they may include an 8ve (or several 8ves) in their compass. Thus any E or G would be considered as a 3rd or as a 5th above C, no matter how wide the distance may be between the C, and the E or G above it.

## CHAPTER IX.

## TIME

## ACCENT, BAR, MEASURES, RHYTHM, TIME-SIGNATURE, SYNCOPATION, HOW TO PUT BARS TO GIVEN MELODIES

138. In listening to any piece of music, one of its greatest charms is the continued and regular succession of strong and weak *accents* or *beats*.

139. Accent signifies prominence, force, or stress, given to certain notes, more than to others. There are three degrees of accent in music, viz. —

(i). STRONG, (ii) MEDIUM, (iii) weak

140 In the performance of music, the strong accent is marked with more or less loudness or force, the medium accent is moderately emphasized, and the weak accent is taken lightly

141 To show the proper grouping of the notes according to their accents, musical compositions are divided into small equal portions called *measures* by perpendicular lines called *bars* drawn across the staff.

142. Very frequently the measures (or spaces between the vertical bar-lines) are themselves called bars.

143. The strong accent (also called the "down beat") always falls immediately after the bar line.

144 Every measure or bar is divided into so many accents, which are sometimes called pulses or beats.

Thus STRONG, *weak*, STRONG, *weak*, STRONG, *weak* may be written in three groups, measures, or bars—

| STRONG, *weak*, | STRONG, *weak*, | STRONG, *weak*; |  
or, if the weak accent precede the strong, the following is the arrangement observed.—

*weak* | STRONG, *weak*, | STRONG, *weak*, | STRONG

145. A piece of music very often begins with an *incomplete* measure. This is done when the composer wishes to commence upon some part of the measure less emphasized than the strong accent which always occurs at the first beat. When this is the case, the piece will always end with another incomplete measure which will contain the strong accent omitted at the beginning, and will otherwise complete the time value of the measure.

146. The regular recurrence and grouping of the accents in a measure are called *Rhythm*.

147. Rhythm or time-division in music is principally of three kinds, *Duple*, *Triple*, and *Quadruple*.

- |                 |                         |
|-----------------|-------------------------|
| (1) Duple,      | two beats in a measure. |
| (2). Triple,    | three        "        " |
| (3). Quadruple, | four        "        "  |

148. The above may be *simple* or *compound*; simple, when each beat is a whole note and can be divided by two; compound, when each beat is a dotted note and can be divided by three.

149 The particular kind of rhythm or time division used in any musical composition is indicated by a sign placed at the beginning, directly after the key-signature. This sign is called the *Time Signature*.

150 A Time-Signature consists of two figures written in the form of a fraction, but without any horizontal line to separate the two figures. A semi-breve being regarded as the standard note, or unit of comparison (from which all other notes are measured), the lower number of this fraction refers to the division of a semi-breve, the upper shows how many of such divisions are taken in each bar or measure; thus,  $\frac{2}{4}$  (two four) means two-fourths of a semi-breve, or two crotchets in a measure, etc.

151 The following are the time signatures in general use —

Fig. 55

	DUPL.	TRIPLE	QUADRUPL.
SIMPLE	$\frac{2}{2}$ or $\frac{2}{2}$	$\frac{3}{2}$	$\frac{4}{2}$ or $\frac{4}{2}$
	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{4}{4}$ or $\frac{4}{4}$
	$\frac{2}{8}$	$\frac{3}{8}$	$\frac{4}{8}$
COMPOUND	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{12}{4}$
	$\frac{6}{8}$	$\frac{9}{8}$	$\frac{12}{8}$
	$\frac{6}{16}$	$\frac{9}{16}$	$\frac{12}{16}$
	$\frac{16}{16}$	$\frac{16}{16}$	$\frac{16}{16}$

152 Quadruple Time,  $\frac{4}{4}$ , is very often called *Common Time*.

The old fashioned sign  $\text{H}$  which once indicated it, is now rapidly becoming obsolete. So too is the equally vague sign  $\text{E}$  which was once used to indicate both two half notes  $\text{e e}$  or two whole notes  $\text{o o}$  in a measure. This was called *Alla breve* time and was sometimes known as *Alla cappelletta* (Church Time)

153 Instances of  $\frac{5}{4}$  and of  $\frac{7}{4}$  time are occasionally met with. These have respectively five and seven crotchets in a measure.  $\frac{5}{4}$  time is, therefore, a compound of duple and triple rhythm, — a measure of  $\frac{3}{4}$  followed by one of  $\frac{2}{4}$ , or *vice versa*,  $\frac{7}{4}$  is a compound of  $\frac{3}{4}$  and  $\frac{4}{4}$  times, or *vice versa*.

154 Duple Time is accented, beaten, and counted thus —



Down Up



1 STRONG

155 Triple Time is accented, beaten, and counted, thus —



Down Right (or Left) Up



156 Quadruple Time is accented, beaten, and counted thus —

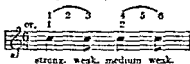


Down Left Right Up





157 Compound Duple Time is accented, beaten, and counted thus:—



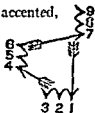
Down three times, 1 & three times.



158. Compound Triple Time is accented, beaten, and counted thus:—




Down three times, RIGHT or LEFT three times, Up three times.



159 Compound Quadruple Time is beaten in the manner shown in §156, but Down three times, LEFT three times, RIGHT three times, Up three times.

160. In Slow Simple Triple Time it is sometimes convenient to count 6. These six counts fall into three groups of two each, 1 2 3 4 5 6; 3 and 5 are in this case medium accents.

161. In Slow Compound Duple Time, it is sometimes convenient to count 6. These six counts fall into two groups of three each, 1 2 3, 4 5 6; 4 is in this case a medium accent.

162. A *double bar*  marks the end of a piece, or of an important section of a piece. It has nothing to do with time-measurement or with rhythm.

163 *Syncopation* is the term used to express *disturbed accent*. The weak pulses or beats of every measure may occasionally be made emphatic at the pleasure of the composer. This is usually done by tying the note on a weak pulse to the next note on either a strong or a medium pulse. The naturally accented note not being sounded afresh, the ear requires that the tied note should receive more than the ordinary accent, and be emphasized. Fig 56 exhibits the ancient and modern methods of writing the same syncopated passage —

Fig 56

## ANCIENT METHOD



This method seems to have occasioned the use of the word *Syncopation*, which means, in musical language, "cutting into two parts."

## MODERN METHOD



OR —



164 In *Syncopation*, the accent may be broken by rests instead of tied notes, as in Fig 57

Fig 57



165. A measure or bar may consist entirely of notes or of rests, or of a proportion of each. Examination candidates are often asked to fill up incomplete measures by adding the necessary notes or rests (or both notes and rests). To do this properly, the following hints will be useful: —

Except in the case of syncopation, no strong nor medium accent should fall in the middle of a note or rest. Thus, the following examples are incorrect: —

Fig 58

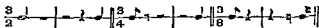


because in (i) the medium accent 5 falls in the middle of the crochet C, and in (ii) the medium accent 4 occurs at the end of the minim G, and a fresh note (C) is struck on the weak accent 5. (i) and (ii) are really examples of syncopation, and should be written so —

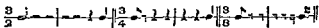
Fig 59



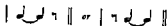
In the three kinds of simple triple time  $\frac{3}{2}$   $\frac{3}{4}$   $\frac{3}{8}$ , one rest is never used to express silence for the duration of two-thirds of a measure. Thus the following are all incorrect, —



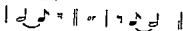
Instead of the single long rest, two shorter rests of equal value should be written, &c. —



In  $\frac{3}{8}$  time a sound of the length of five quavers is represented by two tied notes thus —



In  $\frac{3}{4}$  time a sound of the length of five quavers is represented by two tied notes thus —



In  $\frac{3}{8}$  time when a measure begins with a crotchet and ends with a quaver silence between these two notes is indicated by two rests thus —



In  $\frac{3}{4}$  time when a measure begins with a crotchet and ends with a quaver silence between these two notes is indicated by two rests thus —



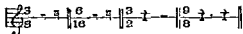
166 A few examples will make the process of measure completion quite clear

167 Thus if it be required to complete the following measures by adding the necessary rests —

4 properly falls at the beginning of the longer of the two rests. In measure (c) a minim rest would be wrong for the reason already given

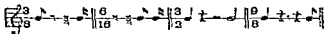
168 Again, if it be required to add, say in each case, two notes necessary to complete these measures —

Fig 62



the following example will show the correct solution —

Fig 63



169 Another common examination test, is to require candidates *to supply the bar-lines to an unmeasured melody*. In barring, or dividing a piece of music into measures, the following hints will be found useful —

Bar lines should be filled in by beginning at the *end* of the given melody, and proceeding *backwards*, rather than by working from left to right. This is especially the case where the given melody consists almost entirely of notes of equal value, as minims, crotchets, quavers, etc

If the last note of all be a long one, it should have a bar line before it.

If a melody ends with a short note preceded by a long note the last bar line should come before the long note.

An incomplete measure at the end of a melody will as a rule indicate an incomplete measure at the beginning

The first note of a group of quavers or semiquavers is nearly always a strong or medium accent

A strong or medium accent must not come in the middle of a note or rest, except by syncopation

Quavers and notes of less value are grouped by having their stems joined together

Groups of two equal notes may belong to almost any kind of time but they will be used sparingly and exceptionally in triple and compound time

Groups of three equal notes may denote a simple triple time, or any compound time.

Groups of four equal notes generally denote a simple time they rarely belong to a compound time

Groups of six equal notes may denote a compound time, or a simple triple time

Dotted notes used in succession or groups of two unequal notes (the second being half the value of the first), will denote simple triple or any compound time

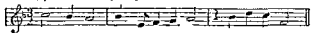
170 The following example, barred first in a simple and afterwards in a compound time, will be found interesting as well as useful —

Fig 64

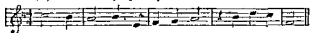
(i) *W's flow bare*



(ii) *Barred in a simple triple time*



(iii) *Barred in a simple quadruple time*



(iv) *Barred in a compound duplet time (with syncopation)*



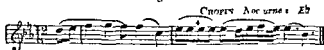
171 *Observation* In Compound time, a *duole* or *duplet* is an *irregular group of notes*, two played in the time of three —

Fig 65



172 Similarly a *quadruplet* is, in compound time an irregular group of four notes played in the time of three. Sometimes the four notes are written in the time-value of the three notes they for the moment temporarily displace —

Fig 66



173 At other times a *quadruplet* is written in the time-value of the four notes which together would make up the value of the undotted pulse of the corresponding *simple* time —

Fig 67



In other words ♩ may represent ♩ or ♩ may represent ♩ at the discretion of the composer

## CHAPTER X

### TRANSPOSITION

174 By *Transposition* is meant changing the notation of a piece of music in any one or more of the three following ways —

(i) From one clef to another, with or without a change of pitch,

(ii) From one major or minor key to another key of the same kind higher or lower in pitch

(iii) From a major key to a minor or *vice versa*

175 When a melody is transposed from one clef to another *without a change of pitch* it simply means that the same notes occupy exactly the same lines and spaces of the Great Staff both before and after transposition the change is only from one particular line or staff to another

176 When a melody is transposed from one clef to another *with a change of pitch* there is generally the interval of an octave between the original and transposed pitch as from bass to treble treble to bass etc

177 When a melody is transposed *from one key to another* of the same kind the key signature is altered in accordance with the transposed pitch of the key note



Then if the difference of pitch be only that of a chromatic semitone, the names of the notes on the staff remain the same, and only the accidentals are changed. If a flat key is transposed a chromatic semitone higher to a sharp key then every  $\flat$  becomes a  $\sharp$ , and every  $\natural$  either a  $\sharp$  or remains a  $\natural$ . If a sharp key is transposed a chromatic semitone lower to a flat key then every  $\sharp$  becomes a  $\flat$ , and a  $\natural$  as a rule becomes a  $\flat$ . For transposition to other keys upwards or downwards it is well to think of the change of pitch as if the required notes were to occupy so many lines and spaces above or below those in the copy from which the transposition is being made. Sometimes it is helpful to read the music as though it were written with some other clef. For instance by reading notes written in the Treble Clef as though they were written in the Alto it is easy to transpose a 4th downwards or a second upwards. by reading them in the Tenor Clef it is easy to transpose a 7th upwards or a 2nd downwards, by reading them in the Bass Clef they can be read ly transposed a 3rd up wards or a 6th downwards and so on.

178 When a melody is transposed from a major to a minor key or *vice versa* the signature will be altered if the tonic remains the same. In any case, the leading note of a minor key will always require an accidental.

case by means of a spring, and can be used in the manner of a pendulum

The tape being drawn out of its case until the required number appears, is then secured in that place by means of a stud. Upon causing the metal case (which acts as the weight of the pendulum) to swing steadily, the required tempo will be accurately indicated

## 182 Words indicating Speed —

*Grave*, solemn.

*Lento* very slow

*Largo*, large or broad. (♩ = 40 to ♩ = 60)

*Lentissimo* and *Larghetto*, not so slow as *Largo*

(♩ = 72 to ♩ = 96)

*Adagissimo*, slower than *Adagio*

*Adagio*, pronounced *ah-dah gree-oh*, slow; lit "at ease," (luxuriously) (♩ = 100 ♩ to = 126)

*Adagiello*, not as slow as *Adagio*

*Andante*, pronounced *ann-dan' ta*, going a moderate pace

(♩ = 126 to ♩ = 162)

*Andantino*, not as slow as *Andante*

*Mod-erato*, mod-erate

*Tempo ordinario* in ordinary time.

*Tempo comodo*, or *comodo*, in convenient time

*Allegretto*, rather fast.

*Allegro*, pronounced *ah-lay'-groh*, merry, lively fast. (♩ = 160 to ♩ = 184)

*Vivace* with life and energy

*Presto* quick. (♩ = 184 to ♩ = 208)

*Prestissimo*, very quick.

183 The words in §182 are modified by the following. —

*Accelerando*, pronounced *akch-keh'-er-ann'-doh*, (*accel*), accelerating

*Allargando*, becoming slower

*Stringendo*, pronounced *string gen -doh*, pressing onwards.

Other words which have much the same meaning are *Affrettando* and *Piu stretto*

*Rallentando*, gradually slackening.

- Animato*, animated.  
*A poco a poco*, little by little  
*Appassionato*, impassioned.  
*Arioso*, in the style of an air or song  
*Assai*, sufficiently very  
*Attacca*, go on immediately  
*Bene* or *Ben*, well  
*Ben marcato*, well marked.  
*Brillante*, brilliantly  
*Brio* or *Con brio*, with vigour  
*Caribale*, pronounced *kan-lah'-bee-lay*, or *Carlando*, in a singing style  
*Col* or *Colla*, with the  
*Col arco*, play with the bow (Violin)  
*Colla parte* or *Colla voce*, the accompanist to keep closely with the solo part.  
*Con*, with  
*Con amore*, with love  
*Con anima*, with soul  
*Con brio*, with brightness, vivacity.  
*Con delicatezza* delicately  
*Con dolore* or *Con duolo*, with grief.  
*Con espressione*, with expression.  
*Con energia*, with energy or force.  
*Con fuoco*, with fire.  
*Con forza*, with force.  
*Con grazia*, with grace.  
*Con gusto*, with taste.  
*Con moto*, with motion.  
*Con sordina*, with the mute (Violin)  
*Con spirito*, with spirit.  
*Con tenerezza*, pronounced *ten-er-el' sah*, with tenderness.  
*Deciso*, with decision.  
*Delicatamente* or *Delicata* pronounced *del-e lah'* so delicately  
*Dolce*, pronounced *dol'-chay*, or *Dolcemente*, pronounced *dol'-chay men'-lay*, sweetly.  
*Dolore*, *Dolorosa*, *Con dolore* pronounced *doh loh'-ray* or *Con duolo*, with grief. *Doloris* has the same meaning  
*Energico* or *Con energia*, with energy or force.  
*Espressivo* or *Con espressione*, with expression.  
*Fieramente*, with vehement energy  
*Fora*, force or emphasis.  
*Fuoco*, fire.  
*Furioso*, impetuously; with fury.

- Giocoso* or *Giocosamente*, pronounced *ge oh loh sa men-day*,  
jocosely gaily  
*Gioioso* joyously  
*Giusto* right exact.  
*Grandioso* grandly  
*Gratioso* pronounced *grat see-oh' soh*, grace ully  
*Gustoso* tastefully  
*Il* or *La* the  
*Impetuoso*, impetuously  
*Langrimeso* or *Lamentevole*, pronounced *lah men-lee -oh-lee*, in  
a plaintive manner  
*Languido*, pronounced *lan gure'-doh*, in a languid, feeble man-  
ner  
*Legato*, smoothly and connectedly  
*Leggero* or *Leggeramente*, lightly  
*Lusingando*, coaxingly, soothingly  
*Ma*, but.  
*Maestoso*, pronounced *may-stoh' soh*, majestic.  
*Marcato* marked  
*Martellato*, with great force, hammered  
*Meno*, less.  
*Meno allegro*, less quick  
*Mesto*, pronounced *may' stoh*, in a pensive, sad manner  
*Mezzo* half  
*Molto* or *Di molto* much very  
*Mosso* or *Moto*, motion.  
*Non* not.  
*Parlando* or *Parlante* in a speaking manner  
*Pastorale*, in a pastoral style  
*Pesante*, pronounced *pay sahn-day* heavily  
*Piacevole*, pronounced *pie-ah'-chev' oh-day* agreeably  
*Piangente* pronounced *pie-an-jee -oh-day* plaintively.  
*Piu*, more.  
*Piuttosto* rather more quickly  
*Pizzicato* (*Pizz*) pluck the string (Violin)  
*Poco* or *Un poco*, a little  
*Pomposo* pompously  
*Quasi* almost.  
*Replica* repeat.  
*Risolutto* pronounced *rees-oh-lod'-doh* in a resolute manner  
*Rivigliato* pronounced *rees my' glee-ah'-doh* very animated  
*Rubato* robbed.  
*Scherzando* or *Scherzoso*, in a sprightly playful manner  
*Sciolto*, pronounced *shee-oh'-doh*, free in performance.

*Semplice*, pronounced *sem plec'-cha*, simply

*Sempre*, always.

*Senza*, without.

*Senza sordino*, without the mute (Violin)

*Serioso*, seriously

*Simile*, in the same manner

*Soave*, pronounced *soh-ah'-ray*, sweetly, gently

*Sostenuto*, sustained

*Sotto voce*, in a subdued manner

*Staccato*, cut short, separated, disconnected.

*Strepitoso*, in a loud, boisterous manner

*Sul G, D, or A*, play only on the G, D or A strings (Violin)

*Sul ponticello*, play near the bridge (Violin)

*Svegliato*, awakened.

*Tanto*, so much

*Tempo rubato*, robbed time, the slight alterations by acceleration or retardation which a performer makes for the purpose of expression

*Tenermente* or *Con tenere-za*, tenderly

*Tenuta*, *Tenute*, or *Ten to*, held on

*Tosto*, quick, rapid

*Tranquillo* or *Tranquillamente*, tranquilly

*Troppo*, too, too much    *Non troppo*, not too much.

*Un* or *Una* a one.

*Allegro*, rapidly

*Allegro*, vigorously, with force.

*Allegro* or *Con vivacità*, with vivacity

*Volante*, in a light flying manner

*Alto* or *Alto*, turn over quickly

NOTE on the pronunciation of Italian vowels generally

A is always like a in *faller*, never like a in *fale*

E, at the end of an accented syllable or at the end of a word is like ay in *pray* before an r it is like e in *fair*, it is like ay before g and gh, it is short like e in *bell* before a double consonant, but it is never like ee in *feet*

I is like ee in *feet*, never like i in *sight*

O is short as in *on* or long as in *tone*, never like o in *do* or *to*.

U is like oo in *boat*, never like u in *but*.

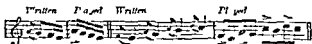
## CHAPTER VII

GRACES EMBELLISHMENTS ORNAMENTS  
PHRASING ABBREVIATIONS ETC

186 The *Appoggiatura* (lit leaning note) pronounced *ap pod gee ah too rah* used to be written as a small note in the works of the old masters (Haydn Mozart and others of the 18th Century) It is now written as a note of the usual size and has the exact time value given to it which it requires

187 When written as a small note before a full sized note which is divisible into two equal parts the appoggiatura takes one of them, and is accented —

Fig 68



188 When written as a small note before a full sized dotted note of long duration the appoggiatura takes the value of the note without the dot, and is accented —

Fig 69.



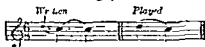
189 When written before a dotted note of short duration, the appoggiatura sometimes takes only one-third of the dotted note —

Fig. 6.



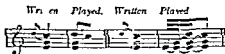
190 When written before a long note tied to a shorter one, the appoggiatura takes the value of the whole of the long note, and if that note has a dot, the value of the dot also —

Fig. 71



191 When written before a chord the appoggiatura should be played with all the other notes except the one it is intended to embellish. If the chord is marked *arpeggio* by means of an upright, wavy line the appoggiatura temporarily takes the place of the note it embellishes —

Fig. 72



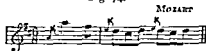
192 The *Double Appoggiatura* consists of two small notes which are occasionally written before a full-sized note. They should take as little time as possible from the duration of the principal note —

F g 73



193 The *Acciaccatura* (crushed note) pronounced *atch-yak' ka too' rah* is a small note having a line drawn across its stem. It should be played as closely as possible to the full sized note it precedes, which retains its accent —

F g 74.



194 In modern music a small note written before an ordinary note is always played as an *acciaccatura*.

195 The *Turn* or *Gruppello* ~ is an ornament which turns or winds round the principal note it embellishes. It is a group of four or five notes, consisting of two or three repetitions of the principal note alternated with the notes which lie a degree above and below it in the scale. The rendering of the turn depends upon —

(1) The time (speed) of the piece in which it occurs

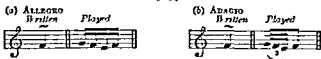
(2) The position of the sign — whether above or after the principal note

(3) Whether the principal note is dotted or simple.



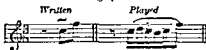
196 When written over an undotted note in quick time, the turn consists of four equal notes. — (i), the note of the scale above the written or principal note, (ii), the principal note itself, (iii), the semitone below, and (iv), the principal note again. See Fig 75, (a) In slow time the last note should be longer than the three preceding ones, as in Fig 75, (b) —

Fig 75



197 When a turn is placed over a note preceded by a rest, it should begin upon the principal note, and consist of five notes as in Fig 76 —

Fig 76



198 When the turn is placed after a long note, the principal note lasts for nearly its full duration, leaving just enough time for the turn at the end —

Fig 77



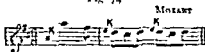
199 The Turn is often placed over or after a dotted note, when it is generally played thus, as in

Fig. 3



193 The *Acciaccatura* (crushed note) pronounced *atch yak' ka too'-rah*, is a small note having a line drawn across its stem. It should be played as closely as possible to the full sized note it precedes, which retains its accent —

Fig. 74



194 In modern music, a small note written before an ordinary note is always played as an acciaccatura.

195 The *Turn* or *Gruppello*, ~ is an ornament which turns or winds round the principal note it embellishes. It is a group of four or five notes, consisting of two or three repetitions of the principal note alternated with the notes which lie a degree above and below it in the scale. The rendering of the turn depends upon —

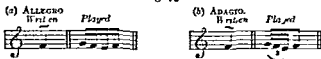
(1). The time (speed) of the piece in which it occurs.

(2). The position of the sign — whether above or after the principal note.

(3). Whether the principal note is dotted or simple.

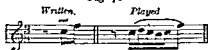
196 When written over an undotted note in quick time, the turn consists of four equal notes — (i), the note of the scale above the written or principal note, (ii), the principal note itself, (iii), the semitone below, and (iv), the principal note again. See Fig 75, (a). In slow time the last note should be longer than the three preceding ones, as in Fig 75, (b) —

Fig 75



197 When a turn is placed over a note preceded by a rest, it should begin upon the principal note, and consist of five notes as in Fig 76 —

Fig 76



198 When the turn is placed after a long note the principal note lasts for nearly its full duration, leaving just enough time for the turn at the end —

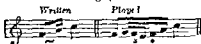
Fig 77



199 The Turn is often placed over or after a dotted note, when it is generally played thus, as in

Fig 78 Observe that the last note of the turn (\*) takes the place of the dot

Fig 78



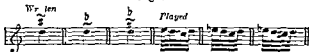
200 The *Inverted Turn* (†) is the exact reverse of the Direct Turn. It commences on the lower note and is more often than not written out in full, in short notes —

Fig 79



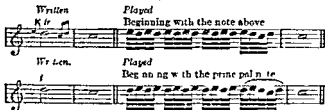
201 When accidentals are required in a turn they should be indicated thus —

Fig 80



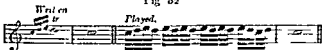
202 The *Shake*, written *tr* (the first two letters of the word *trillo*, a shake), consists of a rapid alternation of a given note with the note above, which must be continued for the value of the principal or written note. The shake generally ends with a turn, which is sometimes indicated in small notes. If the shake be intended to begin upon the note above, this is usually indicated by a small note prefixed to the principal note of the shake —

Fig. 81



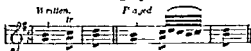
203 A shake is sometimes preceded by two or three notes in small type, which should be incorporated in the shake. This is called a *prepared shake* —

Fig. 82



204 A shake occurring on a note of a short time value resembles a turn —

Fig. 83



205 The two last notes with which a shake should terminate are frequently written thus —

Fig. 84



206 In a succession of shakes, called a *caterpillar* (a chain of shakes), the turn is only added to the last shake —

Fig 85



207 The following forms, indicating the beginnings and endings of ordinary shakes, are often met with in the works of J S Bach and other old masters. —

Fig 86

- 1 The shake without a turn —



- 2 The shake commencing with an inverted turn —



- 3 The shake commencing with an inverted but ending with a direct turn —



- 4 The shake commencing with a direct turn —



- 5 The shake commencing and ending with a direct turn —



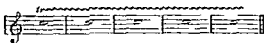
6 The shake ending with a direct turn —



\*From Dr H. A. Hargrave's Musical Ornaments

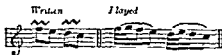
208 When a shake is to be prolonged through several measures it is usual to write it as follows —

Fig 87



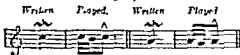
209 The *Upper Mordent*  $\wedge$ , consists of the note written, the note above, and the written note again. The third note should be of longer duration than the preceding ones, and should carry the accent —

Fig 88



210 The *Lower Mordent*  $\sim$ , consists of the note written, the note of the scale below (unless otherwise indicated), and the written note again —

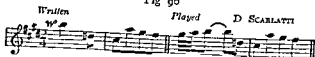
Fig 89



211 The *Slide* (Fr *coulé*) somewhat resembles the mordent, both in appearance and in performance.

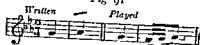
It consists of two sounds ascending or descending stepwise — very rapidly — to the principal note, out of which its time is taken —

Fig 90



212 In older music, the slide was marked thus, —, and was called a *relish* —

Fig 91



213 In modern music, the slide — if not expressed in the actual notation required — is indicated by small, untuned notes —

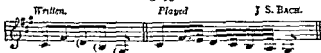
Fig 92



214 The *After note* — unlike all c — occurs at the end of its principal i — name In appearance it resembles placed in a slanting or sideways po

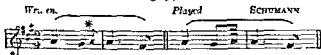


Fig 93



215 In modern music, the after-note is often used as a *note of anticipation* —

Fig 94.



216 Sometimes this ornament consists of two after notes —

Fig 95



217 By *Phrasing* is meant the bringing into prominence the symmetrical or rhythmical grouping of the sounds which form a melody, by the proper observance of the *breaks in its continuity*

218 A Phrase is an incomplete portion of a melody which has, however, a well defined beginning and end

219 A phrase is often indicated by means of a slur, but sometimes in addition to a slur indication, the end of a phrase is clearly shown by a rest

220 The end of a phrase is marked by a pianist or organist lifting his hand from the keyboard, by a singer's taking breath, and by a violinist changing the direction of his bow.

221 When only *two notes* are slurred the former is usually emphasized and the latter cut short

222 ABBREVIATIONS — Many of the following signs are used when notes or passages have to be repeated, thereby saving time and trouble to composers and copyists —

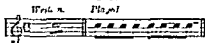
If the same music occurs in consecutive bars in manuscript writing and sometimes in print the sign  $\text{—}$  or  $\text{—}$  is employed

Fig 96



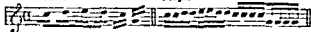
223 In orchestral music chiefly, these abbreviations occur —

Fig 97



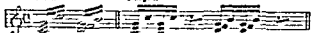
Written

Played



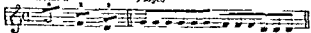
Written

Played



Written

Played



224 The word *Tremolo* (or *Trem*) signifies that the passage is to be played with as many iterations as possible —

Fig 98.



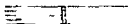
215 REPEATS — Dots when written before a double bar, indicate that the music is to be repeated from the previous double bar, or from the beginning of the piece: —

Fig 99



216 Dots when placed after a double bar indicate that the music to the following double bar is to be repeated: —

Fig 100



foot should be removed. The words *Una Corda* indicate that the left pedal is to be pressed down with the left foot, and kept in that position until the words *Tre Corde* occur, when the foot should be removed. In old pianoforte music the use of the right pedal was sometimes indicated by the words *Senza Sordini* (without dampers) it being the function of the right pedal to remove the dampers from the strings, thus causing them to continue to vibrate and sound long after the hands are removed from the keys. When the foot was required to release the right pedal, the words *Con Sordini* (with dampers) were used.

234. In violin music *Con Sordino* means that a mute is to be placed on the bridge of the instrument to damp or to alter the quality of the tone of the strings. *Senza Sordino* means that this mute is to be removed.

235. *R.H.* and *L.H.* — These letters indicate that the right hand or left hand is to be employed in pianoforte playing. The following words and initials: —

<i>Main Dextre</i>	(M D)	=	R.H.
<i>Main Sinistra</i>	(M S)	=	L.H.
<i>Main Droite</i>	(M D)	=	R.H.
<i>Main Gauche</i>	(M G)	=	L.H.

are also used for the same purpose.

229 *Da Capo* (from the beginning) — When the term *Da Capo* or *DC* occurs at any part of a piece it signifies that the music is to be repeated from the beginning. The term *Al Segno* or *Dal Segno*, or *DC sino al Segno* means that the piece is to be repeated from the sign *S*. In these cases the portion is to be played again without observing ordinary repeat marks. *Al Fine* signifies "to the end."

230 A pause or hold when placed over a double bar signifies that the piece is to end there, after a *Da Capo*. The word *Fine* is frequently used for this purpose instead of the pause.

Fig 102



231 The *Direct* is used in old music at the end of a staff or a page, to indicate the first note on the following page or staff —

Fig 103



232 In modern times the direct is often used to indicate the roots of the chords in a harmony exercise.

233 *Use of the Pedals in Pianoforte Playing* — The word pedal, or *ped*, indicates that the right pedal is to be pressed down with the right foot, and kept in that position until the \* occurs, when the

foot should be removed. The words *Una Corda* indicate that the left pedal is to be pressed down with the left foot, and kept in that position until the words *Tre Corde* occur, when the foot should be removed. In old pianoforte music the use of the right pedal was sometimes indicated by the words *Senza Sordini* (without dampers) it being the function of the right pedal to remove the dampers from the strings, thus causing them to continue to vibrate and sound long after the hands are removed from the keys. When the foot was required to release the right pedal, the words *Con Sordini* (with dampers) were used.

234. In violin music *Con Sordino* means that a mute is to be placed on the bridge of the instrument to damp or to alter the quality of the tone of the strings. *Senza Sordino* means that this mute is to be removed.

235 *R.H.* and *L.H.* — These letters indicate that the right hand or left hand is to be employed in pianoforte playing. The following words and initials:—

<i>Main Droite</i>	(M D)	=	R.H.
<i>Main Sinistra</i>	(M S)	=	L.H.
<i>Main Droite</i>	(M D)	=	R.H.
<i>Main Gauche</i>	(M G)	=	L.H.

are also used for the same purpose.

# 150

## QUESTIONS AND EXERCISES.

### CHAPTER I

- 1 Explain what is meant by pitch in music.
- 2 How are sounds of different pitch distinguished one from the other?
- 3 Why are seven letters sufficient for the naming of sounds?
- 4 How are sounds of different pitch represented upon paper?
- 5 What is the Great Staff?
- 6 Why is not the Great Staff used in its complete form?
- 7 How is the Great Staff divided for the writing of piano-forte music?
- 8 What is a Clef?
- 9 Describe the three Clefs used in music. Could notes be sung or played without the use of a clef?
- 10 Give the names of the most important of the five-lined staves and write them giving each its proper clef.
- 11 On a Staff write the Treble Clef, and after it the following notes—E G C A B, D, F.
- 12 Name the following Treble notes without looking at the staff—2nd line, 4th space, 1st line, 1st space, 5th line, 3rd space, 4th line, 2nd space.
- 13 On a Staff write the Bass Clef and after it the following notes—A D, G C, F, B, E.
- 14 Name the following Bass notes without looking at the staff—3rd space, 2nd line, 1st space, 4th line, 5th line, 2nd space, 3rd line, 1st line.
- 15 Name the notes below the first line in the Treble and Bass staves.
- 16 Name the notes above the fifth line in the Treble and Bass staves.
- 17 What are Leger Lines?
- 18 Describe an easy way of reading notes written upon more than two leger lines above or below the staff.
- 19 What leger line above the Bass Staff will have a note written upon it of the same pitch as a note upon a leger line below the Treble Staff?

20 What is the meaning of the sign *8va.* when written (i) above the staff (ii) below the staff? What is the meaning of a figure 8 placed below a passage of notes?

21 Briefly describe the "Reflective System" of learning staff notation.

## CHAPTER II.

22 How is a note affected by having each of the following signs written before it—(i) a Sharp (ii) a Flat, (iii) a Natural, (iv) a Double Sharp (v) a Double Flat?

23 How do you distinguish between Tones and Semitones upon the keyboard?

24 Show how a Double Sharp can be lowered a semitone, and how a Double Flat can be raised a semitone.

25 Which of the keys in every octave of the keyboard can be called by only two names?

26 What is an Enharmonic Change?

27 Give the Enharmonic names of C, D $\flat$ , D $\sharp$ , F $\flat$ , F $\sharp$ , A $\flat$ , G $\sharp$ , and B.

28 What is an Accidental?

29 For how long does the effect of an accidental continue?

30 Give the Italian names of A, B, C, D $\sharp$ .

31 Give the French names of C, F $\sharp$ , D $\sharp$ , A $\sharp$ .

32 Give the German names of B, B $\flat$ , E $\flat$ , G $\flat$ , F $\sharp$ , E $\sharp$ , B $\sharp$ .

## CHAPTER III.

33 How are differences in the time or duration of sounds represented to the eye?

34 Write a table showing the names of the seven differently shaped notes in English, Italian, French and German.

35 What is a note having four hooks to its stem called?

36 Describe the proper way of writing the stems of notes.

37 What kind of notes are grouped together?

38 What notes are equal to the value of (i) four quavers, (ii) four semiquavers, (iii) four demisemiquavers, (iv) four crotchets?

39 Mention two ways of prolonging the duration of a note upon paper.

40 What note is worth half the value of a dotted crotchet? and what notes represent the value of (i) the eighth part of a minim (ii) the fourth part of a crotchet (iii) the third part of a dotted quaver?



- 41 What is the Tie or Bird?
- 42 What other curved line resembles the tie in appearance?  
What are the uses of this other line?
- 43 What is a Pause? Give another name for it.
- 44 What is meant by the letters G P?
- 45 What are the three kinds of Staccato Phrasing? Explain how the sound-duration of a single note is affected by each kind.
- 46 What is meant by *sempre staccato*?
- 47 Explain what is meant by each of the terms —Triplet, Quadruplet, Quintolet, Sextolet or Sextuplet, Septimole or Septuplet.

## CHAPTER IV

- 48 What signs are used to express silence?
- 49 Describe the shapes of the various Rests.
- 50 In what different ways may a Rest be prolonged?
- 51 What Rest is used to express the silence of a whole measure?
- 52 How are rests of longer duration than one measure indicated?

## CHAPTER V

- 53 Explain the difference between the terms Scale and Key.
- 54 How many kinds of Scales are there?
- 55 What is the difference between Diatonic and Chromatic Scales?
- 56 Give the names of the Degrees of Diatonic Scales and state which are the most important Degrees in each Scale.
- 57 Why are the 4th and 6th Degrees respectively named Subdominant and Submediant?
- 58 Give the order of Tones and Semitones in a Major Scale.
- 59 Why is C major called the "natural" Scale?
- 60 What is a Tetrachord?
- 61 Explain how the same Tetrachord can belong to two different Major Scales.
- 62 Starting each new scale a fifth higher than the last, what note is required to be sharpened each time? and why?
- 63 In constructing Scales by descending fifths what particular note must be altered each time? and why?
- 64 What is a Key signature?

65 Give a rule for finding the tonic by looking at the signature of a major key with either Sharps or Flats.

66 Write out the whole of the Key signatures belonging to the Major Scales with Sharps and Flats and show the position of the key note in each case.

67 Give the names of the scales which are on the pianoforte enharmonically the same as  $C\sharp$ ,  $C$ , and  $F\sharp$ .

## CHAPTER VI

68 Name the two forms in which every Minor Scale can be used.

69 Where do the semitones occur (i) in the Harmonic form (ii) in the Melodic form of the Minor Scale?

70 Which note of the Harmonic Minor Scale is always indicated by an accidental?

71 Which notes of the ascending form of the Melodic Minor Scale are indicated by accidentals?

72 What do you understand by the two terms Tonic Minor Relative Minor?

73 Give a rule for finding the Tonic by looking at the signature of a minor key with either sharps or flats.

74 Write out the whole of the Key signatures belonging to the Minor Scales with sharps and flats, and show the position of the key note in each case.

75 State how you would proceed (i) to find the Key signature of a given melody, and (ii) to find whether a given piece of music is written in a minor key.

## CHAPTER VII

76 What is the difference between a Diatonic and a Chromatic semitone?

77 What difference is there between the two ways of writing the Chromatic Scale?

78 In the Harmonic form of the Chromatic Scale what two Degrees of the Diatonic Scale are never inflected by an accidental? And which Diatonic Degree is always raised?

79 How is the ascending form of the Melodic Chromatic Scale obtained? Which two Diatonic Degrees are never inflected by an accidental? Which five Diatonic Degrees are always raised?

80. Write once with a *Major* Key-signature and once with a *Minor* Key-signature the Harmonic Chromatic Scales beginning on the notes G, L, F, A. Draw a diagram showing how the correct number of sharps and flats in Major Key signatures may be carried from the Harmonic Chromatic Scale of C.

81. Write once with a *Major* Key signature and once with a *Minor* Key-signature the Melodic Chromatic Scales (ascending and descending) beginning on the notes D, B, E, D.

## CHAPTER VIII

82. Define the term interval.

83. How does a Melodic Interval differ from an Harmonic Interval?

84. How are Intervals named?

85. How are Intervals measured numerically and is this measurement affected by accidentals?

86. What determines the qualifying name of an Interval? and what is the standard of measurement?

87. Write the Major Seconds above A, B, C, D.

88. Write the Major Thirds above E, F, G, A.

89. Write the Major Sixths above B, C, D, E.

90. Write the Major Sevenths above B, C, F, G.

91. Write the three Perfect Intervals in the Keys of G, F, A, and B major.

92. Turn all the Major Intervals you have written in your answers to 87, 88, 89 and 90 into Minor Intervals of the same numerical name.

93. Turn all the Intervals you have written in your answers to 91 and 92 into Diminished Intervals of the same numerical name.

94. Turn all the Intervals you have written in your answers to 87, 88, 89, 90 and 91 into Augmented Intervals of the same numerical name.

95. Describe the difference between Concords and Discords.

96. Write out all the Perfect and Imperfect Concords above the notes F and B.

97. How are Discords formed?

98. Between what degrees of Diatonic Scales do the following intervals occur—Diminished 4th, Augmented 4th, Diminished 5th, Augmented 5th, Diminished 7th?

99. What Intervals are not found in any Diatonic Scale?



110. What is Time signature?
111. Explain the meaning of the terms— $\frac{3}{4}$ ,  $\frac{4}{4}$ ,  $\frac{6}{8}$ ,  $\frac{3}{8}$ ,  $\frac{2}{4}$ ,  $\frac{9}{8}$
112. What is meant by *Alli. Proce. time*? How is this sometimes indicated in the Time Signature?
113. What two different kinds of slow time have each 6 counts in a measure? Describe the rhythmical groupings in each case.
114. Describe the position of the medium accent in a measure of  $\frac{1}{4}$ ,  $\frac{2}{4}$ ,  $\frac{3}{4}$  and slow  $\frac{3}{4}$  time.
115. Define the term "Syncope."
116. What is the use of a Double Bar?
117. What kind of Accent ought never to come in the middle of a minim or crotchet rest?
118. What Rest is never employed in  $\frac{3}{4}$  time?

## CHAPTER X

109. What is meant by 'Transposition'?
120. How can a melody be 'transposed' without a change of pitch?
121. When a melody undergoes a change of pitch by transposition from one clef to another, what is generally the extent of such a change?
122. What changes take place when a melody is transposed from a Major key with sharps to a Major key with flats?
123. What important facts have to be remembered when a melody is transposed from a major key to a minor key?

## CHAPTER XL

124. Why is the Italian language used for indications of speed style expression etc?
125. Describe any kind of metronome with which you may be acquainted. What is meant by  $\text{♩} = 120$ ?
126. Write out a list of words indicating speed arranging them in order from 'very slow' to 'very fast,' and giving the correct meaning of each.
127. Give a short list of terms used to modify or to temporarily alter the more usual indications of speed.
128. Give a list of words indicating various degrees of intensity of tone, beginning with "very soft" and ending with "very loud," and show how these are abbreviated.
129. What words indicate a gradual or a sudden increase of tone? and what words indicate a gradual decrease of tone?

130 Write the Italian words used to express these phrases—  
—in the church style, in a pastoral style, in a speaking manner, in a graceful singing manner, in an agitated manner, in a subdued manner, in a loud boisterous manner, in a plaintive manner

131 Give the meaning of these Italian words—*A, bene, colla, con, id, la, ma, non, piu, quasi, senza, tanto, poco, una, vero*

132 What Italian words mean—little by little, go on immediately, with expression with great force, too much, turn over quickly, go back to the beginning?

133 Explain the meaning of—*Affettuoso, agitato, appassionato, arioso, assai, attaccato, brioso, dolente, dolce, deciso, giocoso, giusto, gustoso, lusingando, mesto, piacevole, strepitoso*

134 Give the Italian words for—with fire with soul, with grace, with tenderness, with fury, with vigour, dying away, coaxingly

135 Give the English of—*Sempre ben marcato, allegro non troppo, presto assai, meno mosso, tempo rubato, Pistesso tempo, piu, meno, sotto voce, tutti subito*

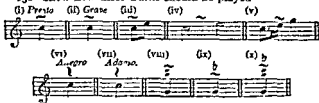
## CHAPTER XII

136 Define the terms—*Appoggiatura, Acciacatura, Gruppetto, Mordent, Cartena di trilli, slide after note*

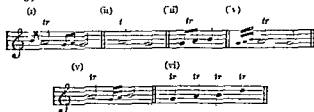
137 Show how the following Graces ought to be played—



138 Show how these Turns should be played—



139 Show how these Shakes should be rendered—



140. Show how these Mordents should be played—



141 What do you understand by the term "Phrasing," and how are phrases indicated in musical notation?

142 How is a group of two slurred notes rendered by the performer?

143 Show how these notes would be played—



144 Explain these Signs—



145 Explain these Terms—*Bis*, *DC*, *Dal Segno*, & *Al Fine* 1ma volta, 2da volta

146 How is the use of the Right Pedal indicated?

147 How is the use of the Left Pedal indicated?

148 How do you know when to remove your feet from either the Right or the Left Pedal?

149 Explain the term *con sordina* in connection with both pianoforte and violin music.

150. What letters (or words) indicate the use of the Right and Left hands in pianoforte playing?

## APPENDIX. [A]

OTHER AND LESS-USED MUSICAL TERMS (FROM VARIOUS  
LANGUAGES), ORNAMENTS, &c

German words are distinguished by (Ger) French by (Fr) all those  
not especially marked are Italian

- Alcuna*, some  
*Alla*, in the style of  
*Allargando*, lengthening out,  $\text{♩}$   $\text{♩}$ , slower and louder  
*Amarcro'e*, bitter  
*Andachtig* (Ger), devoutly  
*Aperio*, open (as applied to the use of the right pedal)  
*Appenalo*, in a sorrowful manner  
*A poco*, by little  
*Ardito*, with spirit and boldness  
*A suo arbitrio*, according to the performer's judgment  
*Auf das*, or *aufs* (Ger), on (or to) the  
*Aus* (Ger), from, out of, out  
*Barcarola* or *Barcarolle*, (Fr) in the style of a boat song  
*Battuto*, the strong accent of a bar  
*Berceuse*, (Fr), a cradle song  
*Bestimmt* (Ger), decided, precise  
*Bewegt* (Ger), moved, agitated.  
*Burlesco*, burlesque  
*Calcando*, pressing forward, hurrying the time  
*Calmato*, calmed  
*Canzona*, a principal melody  
*Capriccioso*, fanciful, capricious.  
*Celere*, swift, nimble  
*Con*, (singular) *Cogli* (plural), with the.  
*Come*, like as, how *Con e sopra* as above.  
*Couronne* (Fr), a pause,  $\text{〰}$   
*Da*, through, in, for  
*Dal* from the, by the, through the, &c  
*Dem* (Ger), to the  
*Deslo* sprightly, wide-awake  
*Di*, of, from, to, by, &c  
*Dia*, through  
*Di bravura*, brilliantly.  
*Di chiaro*, clearly  
*Di colto*, at once  
*Di grado*, by degrees.



## APPENDIX. [B]

## HOW MUSIC IS WRITTEN.

1. Music can be written in 2, 3, 4, — or a still greater number of parts: —

Fig 104.



2. A *Part* — being a mere *melody*, i.e., a succession of single sounds — is written and read *horizontally*, from left to right.

3. A *Chord* — being a combination of simultaneous sounds — is written and read *perpendicularly*, from the bottom to the top.

4. *Four-part writing* is by far that which is most frequently to be met with in musical composition generally. This may be designed for: —

(a). Pianoforte (or organ).

(b). For voices.

(c). For string quartet.

5. When all the four parts are written one over the other on the same page, the music is said to be *in score*.

6 A *compressed score* is that which is generally used for pianoforte music, this may be written on one staff as in Fig 104 or on two staves, thus —

Fig 103



7 The *four kinds of voices* in a choir or chorus are —

- (i) Treble (boy's voice) or Soprano (woman's high voice)
  - (ii) Alto (man's high voice) or Contralto (woman's deep voice)
  - (iii) Tenor
  - (iv) Bass
- } men's voices

8 In an *open vocal score*, each voice is written for on a separate staff, with the Treble as the highest part, the Bass as the lowest part, and the Alto and Tenor as the inner parts

9 The *inner parts* may be written —

(a) each with its own proper C clef as in Fig 106 (a) or,

(b) each in the G clef, with a direction for the Tenor part to be sung an octave lower, as in Fig 106 (b)

FIG 106.

Figure 106 shows two systems of musical notation for a string quartet. System (a) includes staves for Treble, Alto, Tenor, and Bass. System (b) includes staves for Treble, Alto, Tenor (labeled 'Tenor 2nd lower'), and Bass. The notation includes various musical symbols such as notes, rests, and slurs.

10 A *String Quartet* consists of *Two Violins* (primo and secondo), each written for with the G clef *Viola*, written for with the Alto clef and *Violoncello* (pronounced *ree'-oh laren-chel'-loh*), written for with the Bass clef, with an occasional use of the Tenor clef in order to avoid inconvenient ledger lines —

FIG 107

Figure 107 shows a musical score for a string quartet with four staves: Violins 1mo, Violins 2do, Viola, and Cello. The notation includes various musical symbols such as notes, rests, and slurs.

The above extract would appear thus when written in compressed score —

Fig 108

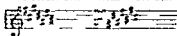


### II Hints for writing single parts

All clefs should be carefully and nicely formed, and all sharps or flats belonging to the key signature should be distinctly written *in the proper order*, with each flat or sharp on its right line or in its right space. When the Treble, Alto and Bass clefs are used, the first sharp in the key-signature should occupy the *higher* of the two possible places on the staff. When the Tenor clef is used this first sharp should occupy the *lower* staff position and the remainder of the sharps should follow this lead —

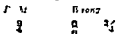
Fig. 109

With Treble Clef      With Tenor Clef



The time-signature should have no line of any kind inserted between its two figures —

Fig. 110.



All notes below the middle line of the staff should have their stems turned *up*, all above the middle line should have their stems turned *down* —

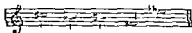
Fig 111



Turned-up stems should be placed to the *right* of the notes, turned-down stems should be placed to the left. Hooks belonging to quavers, semiquavers, and shorter notes should always be placed to the *right* of the stems, whether the latter be turned up or down.

Accidentals,— which in every case should be most distinctly and clearly written, *i. e.*, exactly *on* a line, or *in* a space — are always placed *before* the notes they raise or lower —

Fig 112



Care should be taken whilst copying music, that no necessary accidental is omitted, and it should never be forgotten that the effect of an accidental continues only through the measure in which it occurs, unless it is contradicted *within* that measure.

No dot after a note written upon a line of the staff is ever placed upon that same line, but always in the next space —

Fig 113



A dotted note written on a line has its dot placed in the *next space above*, if the next note be higher than the dotted note, and *vice versa* —

Fig 114



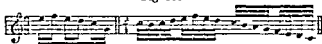
Leger lines should be written before the notes are placed upon them. The first leger line should be parallel to the staff, at a distance equal to the width of the spaces between the staff lines themselves. Every fresh leger line should be kept at the same distance as the one above or below it —

Fig 115



It is often convenient to the eye of a sight reader if the rhythmical subdivision of semiquavers and the groups of shorter notes be indicated in this way —

Fig 116



## 12 Hints for Writing in Score —

When writing in Open Score of any kind, all the above hints for writing single parts should be most carefully observed

All *unisons* must be indicated in open score by two separate notes, each written on the staff assigned to either part which is required to sing or to play it. —

Fig 117



When writing in *short* or *compressed score* the stems of the Treble and Tenor notes must be turned *up* and those of the Alto and Bass notes must be turned *down* —

Fig 118



If a unison sung by two voices which begin and end together be a semibreve in duration, as at (d) in Fig 118 the two semibreves may be written side by side as there shown, or *linked*, so A unison of shorter duration is indicated by one note only, with two stems, one turned upward, the other turned downward, so —

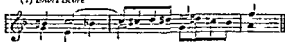
Sometimes — as at (a) and (c) in Fig 118, two voices may begin in unison, but whilst one voice sustains the common note, the other moves away from it. When this is so, two black notes — although of different lengths — should have the same note head to begin with, the difference of duration being shown by the hook or hooks. But a semi-breve and a minim, or a minim and a crotchet, must have separate note-heads, that of the shorter duration being written first —

Fig 119



Sometimes, an *accidental* which is unnecessary in a short score is requisite in an open score, and *vice versa* —

Fig 120

(1) *Short Score*(2) *Open Score*



7 The vibratory motion so re-inforced is caught up and transmitted in every possible direction by a series of *air-waves*. The outer *air* itself is made up of infinitely small particles which are capable of being packed more closely together—*i.e.* *condensed* and of being more loosely separated—*i.e.* *rarefied*.

8 Every re-inforced vibration of the sounding body sets up an air wave which consists of an alternate state of condensation and rarefaction of the air particles so set in motion.

9 The air waves entering the external part of *the human ear* strike against the inner tympanum or drum and set it also into sympathetic vibration.

10 The ear-drum vibrations being transmitted to the brain produce there the sensation called *sound*.

11 The three most important features of a musical sound are its —

(i) *Pitch*

(ii) *Intensity*

(iii) *Quality*

12 By *pitch* is meant the height or depth of any given sound in the musical scale. Pitch depends upon the number of vibrations made per second by the sounding body. This *vibration number increases* as the sounds get higher in the scale and *decreases* as they get lower. In music notation pitch is indicated by the various positions of notes on the great staff or any sections thereof.

## APPENDIX. [C].

## WHAT SOUND IS.

1. *Sound* is a sensation of the brain, caused by the action of the ear.

2 The ear is excited by some kind of *motion* exterior to itself.

3. The external motion is called *vibration*, which may be described as a tremulous or very rapid to-and-fro movement, easily *seen* when a piano or violin string is struck or bowed, and *felt* when a sounding organ-pipe is touched by the finger.

4 A mere *noise* — such as the clapping of hands — is an *unsteady* sound. A *musical tone* is a *steady* sound, *i e*, it is due to *periodic vibration*, which is a continual repetition of the same kind of motion at regularly recurring and equal intervals of time — very much after the manner of a clock-pendulum.

5. But the vibrations of the actual sounding body itself need re-inforcing and strengthening before the sound so generated can be heard at any distance from the source of production.

6 This is accomplished by means of a *resonance-box* or *sound-board* attached to the sounding body. This chamber contains a mass of enclosed air, which is very readily thrown into powerful and sympathetic *co-vibration*.

For example, the resonance box of a violin is the hollow body of the instrument itself, the flute has its own empty cylinder; the human voice has the cavities of the mouth, chest, etc.

7 The vibratory motion so re-inforced is caught up and transmitted in every possible direction by a series of *air waves*. The outer *air* itself is made up of infinitely small particles which are capable of being packed more closely together — i.e. *condensed* and of being more loosely separated — i.e. *rarefied*.

8 Every re-inforced vibration of the sounding body sets up an air wave which consists of an alternate state of condensation and rarefaction of the air particles so set in motion.

9 The air waves entering the external part of the *human ear*, strike against the inner tympanum or drum and set it also into sympathetic vibration.

10 The ear-drum vibrations, being transmitted to the brain, produce there the sensation called *sound*.


11 The three most important features of a musical sound are its —

(i) Pitch

(ii) Intensity

(iii) Quality

12 By *pitch* is meant the height or depth of any given sound in the musical scale. Pitch depends upon the number of vibrations made per second by the sounding body. This *vibration number increases* as the sounds get higher in the scale and *decreases* as they get lower. In music notation pitch is indicated by the various positions of notes on the *great staff* or any sections thereof.

13 The *intensity* of a musical sound depends upon the degree of force with which the air waves strike against the drum of the ear. The greater the amplitude or force of the vibration the louder is the sound and *vice versa*. In music notation intensity of sound is indicated by the use of words, letters, or signs such as *forte piano, crescendo diminuendo ff, pp*  etc.

14 The *Quality* or *Timbre* of a musical sound depends upon the number, order and relative intensities of the *partial-tones* of which it is made up — *i.e.* upon the *form* or *manner* of the air waves produced by the compound sound. In music notation, quality is indicated by writing the notes for any particular voice or instrument in a score (See parts 13 and 22 of this Appendix)

15 A *simple tone* — like that of a tuning fork — is the result of simple vibrations which resemble those of a pendulum.

16 A *compound tone* — like that of a voice or a piano or some other instrument — is due to the combination of two or more simple vibrations and waves. A compound tone consists of what is called its *root* or *generator* — which is by far the loudest sound heard in the combination — and several ‘upper partials’ much higher in pitch than itself, but each getting very much fainter in its intensity as it is farther away from the ‘root’.

17 The following series of five upper partials can be heard sounding very softly with the root, when

ever "Bass C" is struck upon a good modern piano —

Fig 122



18 Practical experiments which will effectively prove the existence of these "upper partials," will be found described in the author's *Art of the Piano-teacher* (p 297)

19 The upper partials of any other given sound will always be found to follow the same harmonic succession as that shown in Fig 122. No sound intermediate in pitch between any of these intervals will ever be detected. Thus, if D be chosen as a "root," the following "upper partials" will be heard.

Fig 123



20 Still higher partials can be observed by analyzing the tones of trumpets and other orchestral instruments, (see 7 and 8 in Fig. 123).

